Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. – 19. (cancelled)

20. (new) A process for the production of a synthetic resin composite material with a flexible polyurethane gel coat, wherein the process comprises

(i) mixing a polyol component (A) and a polyisocyanate component (B) and at least partially curing the resultant mixture to form a gel coat material; and

(ii) contacting the gel coat material with a synthetic resin that comprises at least one of an epoxy resin and a vinyl ester resin, the synthetic resin being not, or at least not completely cured at the time it is contacted with the gel coat material;

and wherein

polyol component (A) is a mixture that comprises

(A1) one or more low molecular weight polyols having a molecular weight of from 160 to 600 g/mol and from 5 to less than 20 mol of hydroxyl groups per kg of low molecular weight polyol(s);

(A2) one or more higher molecular weight polyols having a functionality of ≥ 2 and less than 5 mol of hydroxyl groups per kg of higher molecular weight polyol(s); and

(A3) one or more light resistant aromatic amines;

polyisocyanate component (B) comprises one or more polyisocyanates.

21. (new) The process of claim 20, wherein the gel coat material displays an elongation at break at 23°C, measured according to DIN EN ISO 527, of at least 3%.

22. (new) The process of claim 20, wherein the polyurethane gel coat material is not completely cured at the time it is contacted with the synthetic resin.

23. (new) The process of claim 22, wherein the synthetic resin is applied onto the gel coat material.

24. (new) The process of claim 20, wherein the synthetic resin comprises one or more reinforcing materials.

25. (new) The process of claim 24, wherein the one or more reinforcing materials comprise one of more of a glass fiber fabric, a glass fiber nonwoven, a carbon fiber fabric, and a carbon fiber bonded fabric.

26. (new) The process of claim 20, wherein an aromatic amine of component (A3), as a 20 wt.% solution in toluene, mixed at 23°C with an equimolar quantity of an oligomeric HDI isocyanate having an NCO content of about 5.2 mol/kg and a viscosity of from 2,750 to 4,250 mPas, as a 80 wt.% solution in toluene, affords a gel time, determined according to E-DIN VDE 0291-2, 1997-06, section 9.2.1., of more than 30 seconds.

27. (new) The process of claim 20, wherein an aromatic amine of component (A3), as a 25 wt.% solution in toluene, when mixed at 23°C with an equimolar quantity of an oligomeric HDI isocyanate having an NCO content of about 5.2 mol/kg and a viscosity of from 2,750 to 4,250 mPas, affords a mixture which, when applied onto an inert white test plate and cured in a forced-air oven for 30 minutes at 80°C and then for 60 minutes at 120°C, affords a coating with a dry layer coating thickness of about 20 µm, which coating, after 300-hour artificial weathering according to ASTM-G 53 with 4 hrs UVB 313, 4 hrs condensation, affords a color shade change delta E, determined according to DIN 5033 part 4 and assessed according to DIN 6174, of at most 50.

28. (new) The process of claim 20, wherein the one or more amines of component (A3) comprise at least one methylenebisaniline.

29. (new) The process of claim 28, wherein the at least one methylenebisaniline comprises 4,4'- methylenebis-(3-chloro-2,6-diethylaniline).

30. (new) The process of claim 20, wherein component (A) comprises from 0.1 to 20 wt.% of component (A3), based on a total weight of components (A1), (A2) and (A3).

31. (new) The process of claim 20, wherein component (A) comprises from 2 to 60 wt.% of component (A1), based on a total weight of components (A1), (A2) and (A3).

32. (new) The process of claim 31, wherein component (A) comprises from 5 to 50 wt.% of component (A1).

33. (new) The process of claim 20, wherein component (A1) comprises from 6 to 15 mol of hydroxyl groups per kg of component (A1).

34. (new) The process of claim 20, wherein component (A1) comprises one or more polyols selected from straight-chain and branched polycaprolactone diols, polycaprolactone triols, polycaprolactone tetrols, polyester polyols, polypropylene oxide triols, polyether polyols, and polytetramethylene oxide diols.

35. (new) The process of claim 20, wherein component (A2) comprises one or more polyols selected from polyester polyols, polyether polyols, polycarbonate polyols, acrylate polyols, and polyols based on fatty chemical raw materials or natural oils.

36. (new) The process of claim 20, wherein component (A2) comprises from 1 to 4.99 mol of hydroxyl groups per kg of component (A2).

37. (new) The process of claim 20, wherein component (A) comprises from 97 to 30 wt.% of component (A2), based on a total weight of components (A1), (A2) and (A3).

38. (new) A synthetic resin composite material with a flexible polyurethane gel coat, wherein the composite material is obtained by the process of claim 20.

39. (new) The composite material of claim 38, wherein the composite material is in a form of a rotor vane for a wind power plant, or a part thereof.

40. (new) A process for the production of a synthetic resin composite material with a flexible polyurethane gel coat, wherein the process comprises

(i) mixing a polyol component (A) and a polyisocyanate component (B) and at least partially curing the resultant mixture to form a gel coat material; and

(ii) contacting the gel coat material with a synthetic resin that comprises at least one of an epoxy resin and a vinyl ester resin, the synthetic resin being not, or at least not completely cured at the time it is contacted with the gel coat material;

and wherein

polyol component (A) is a mixture that comprises, based on a total weight of (A1), (A2) and (A3):

from 2 to 60 wt.% of (A1) one or more low molecular weight polyols having a molecular weight of from 160 to 600 g/mol and from 6 to 15 mol of hydroxyl groups per kg of low molecular weight polyol(s);

from 97 to 30 wt.% of (A2) one or more higher molecular weight polyols having a functionality of ≥ 2 and from 1 to 4.99 mol of hydroxyl groups per kg of higher molecular weight polyol(s); and

from 0.1 to 20 wt.% of (A3) one or more light resistant aromatic amines which comprise 4,4'- methylenebis-(3-chloro-2,6-diethylaniline);

polyisocyanate component (B) comprises one or more polyisocyanates.

41. (new) A process for the production of a synthetic resin composite material with a flexible polyurethane gel coat, wherein the process comprises

(i) forming a gel coat material by mixing a polyol component (A) and a polyisocyanate component (B) and, optionally, partially curing the resultant mixture;

(ii) applying onto the gel coat material a synthetic resin that comprises at least one of an epoxy resin and a vinyl ester resin, the synthetic resin being not, or at least not completely cured at the time it is applied onto the gel coat material;

and wherein

polyol component (A) is a mixture that comprises

(A1) one or more low molecular weight polyols having a molecular weight of from 160 to 600 g/mol and from 5 to less than 20 mol of hydroxyl groups per kg of low molecular weight polyol(s);

(A2) one or more higher molecular weight polyols having a functionality of ≥ 2 and less than 5 mol of hydroxyl groups per kg of higher molecular weight polyol(s); and

(A3) one or more light resistant aromatic amines;

polyisocyanate component (B) comprises one or more polyisocyanates.